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**Tait Environmental Management, Inc.**  
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April 12, 2002

Ms. Stephanie M. Sibbett  
Boeing Realty Corporation  
3855 Lakewood Boulevard  
Building 1A MC D001-0097  
Long Beach, CA 90846

Via: Federal Express  
(818) 586-5889 (fax)  
(562) 593-8623 (phone)

**Subject: Field Data Report for Annual Gauging and Sampling at the Boeing Realty Corporation, Former C-6 Facility, Torrance, California**

Dear Ms. Sibbett:

This letter report is prepared to summarize and present the field data collected during groundwater sampling and gauging activities conducted March 21-27, 2002 at the Boeing Realty Corporation (BRC), Former C-6 Facility, Torrance, California (Site). The groundwater gauging and sampling activities were performed in accordance with the following:

- *Groundwater Monitoring Work Plan 2002* by Haley & Aldrich, Inc., dated December 2001.
- *Statement of Work for Evaluating of Natural Attenuation* by Exponent prepared for Ogden Environmental and Energy Services Co., dated January 10, 2001.
- *Standard Operating Procedures for Measuring Natural Attenuation Parameters* by England Geosystems and Haley & Aldrich, dated January 9, 2001.

The following is a brief summary of our field observations:

- Prior to initiating the sampling event a number of wells were repaired to make them accessible for gauging and sampling. On March 20, 2002, Tait Environmental Systems, Inc. excavated around four wells (TMW\_13, TMW\_16, WCC\_12S, and XMW\_18) that had been covered during grading activities. Additionally, West Hazmat was on-site to remove obstructions in the following wells due to grading activities: TMW\_5, TMW\_9, TMW\_11, TMW\_12, and TMW\_16.
- A total of 30 monitoring wells were re-surveyed for top of casing elevations by Tait & Associates, Inc. on March 19, 2002.
- A total of 30 monitoring wells were gauged on March 21, 2002.
- A total of 30 monitoring wells were purged and sampled between March 21, 2002 to March 27, 2002. Six of the 30 monitoring wells were purged and sampled for natural attenuation parameters.
- A total of 20 properly labeled 55-gallon drums were filled with decontamination and purged groundwater.



April 12, 2002  
Field Data Report  
Boeing Realty Corporation, Former C-6 Facility

Please call us if you have any questions or comments at (714) 560-8200. TEM is pleased to be of continued service to Boeing Realty Corporation.

Very Truly Yours,

**Tait Environmental Management, Inc.**

Scott Ek  
Project Geologist

Mehmet Pehlivan, R.G. C.H.  
Senior Hydrogeologist

Attachments:

Well Gauging Data Sheet (2 pages)  
Groundwater Sampling Data Sheets (30 pages)  
Instrument Calibration Sheet (1 page)  
QA/QC Sample Identification Form (1 page)  
Investigation Derived Waste Inventory Record (1 page)  
Field Survey Summary (3 pages)

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TAIT Environmental Management, Inc.

**Well Gauging Data Sheet**

**Site Name:** BRC, Former C-6 Facility / March 2002 - Annual

Well ID	Date	Time	Diameter (in)	Measurement Point	Depth to Water (ft-bmp)	Personnel	Comments
WCC_3S	03/21/2002	6:53	4	Top of casing at marking	64.14	SEE	Top of casing ~ 6' below grade. Requires: well box, locking cap
WCC_3D	03/21/2002	6:56	4	Top of casing at marking	64.19	SEE	Top of casing ~ 6' below grade. Requires: well box, locking cap
WCC_6S	03/21/2002	6:59	4	Top of casing at marking	64.56	SEE	Top of casing ~1' below grade. Requires: well box, locking cap
TMW_8	03/21/2002	7:01	2	Top of casing at marking	67.49	SEE	New riser w/2002 lock
TMW_7	03/21/2002	7:04	2	Top of casing at marking	66.07	SEE	New riser w/2002 lock
TMW_9	03/21/2002	7:06	2	Top of casing at marking	66.32	SEE	New riser w/2002 lock
TMW_2	03/21/2002	7:09	2	Top of casing at marking	69.55	SEE	New riser w/2002 lock
TMW_1	03/21/2002	7:11	2	Top of casing at marking	69.57	SEE	New riser w/2002 lock
TMW_16	03/21/2002	7:14	2	Top of casing at marking	68.06	SEE	New riser added by TAIT needs 2002 lock
WCC_12S	03/21/2002	7:19	4	Top of casing at marking	60.44	SEE	Top of casing ~ 4' below grade. Well in good condition
WCC_9	03/21/2002	7:30	4	Top of casing at marking	60.33	SEE	Top of casing ~ 6' below grade. Requires: well box, locking cap
TMW_10	03/21/2002	7:33	2	Top of casing at marking	61.36	SEE	New riser w/2002 lock
XMW_19	03/21/2002	7:36	4	Top of casing at marking	60.76	SEE	Well in poor condition
TMW_11	03/21/2002	7:38	2	Top of casing at marking	60.89	SEE	Well in okay condition
TMW_12	03/21/2002	7:41	2	Top of casing at marking	66.25	SEE	New riser added by TAIT (temp) casing cracked at surface needs well box
XMW_18	03/21/2002	7:46	4	Top of casing at marking	65.51	SEE	Well ~ 3' below grade. In okay condition
TMW_13	03/21/2002	7:49	2	Top of casing at marking	65.49	SEE	Well ~ 3' below grade, needs well box and locking cap
TMW_5	03/21/2002	7:52	2	Top of casing at marking	67.52	SEE	New riser w/2002 lock
TMW_3	03/21/2002	7:55	2	Top of casing at marking	65.06	SEE	New riser w/2002 lock
TMW_6	03/21/2002	7:58	2	Top of casing at marking	70.61	SEE	New riser w/2002 lock
TMW_4	03/21/2002	8:01	2	Top of casing at marking	68.18	SEE	New riser w/2002 lock



TAI Environmental Management, Inc

**Well Gauging Data Sheet**

**Site Name:** BRC, Former C-6 Facility / March 2002 - Annual

Well ID	Date	Time	Diameter (in)	Measurement Point	Depth to Water (ft-bmp)	Personnel	Comments
WCC_11S	03/21/2002	8:08	4	Top of casing at marking	63.68	SEE	Good condition
WCC_4S	03/21/2002	8:12	4	Top of casing at marking	62.81	SEE	New riser w/2002 lock
WCC_7S	03/21/2002	8:17	4	Top of casing at marking	63.51	SEE	New riser w/2002 lock
WCC_5S	03/21/2002	8:20	4	Top of casing at marking	61.93	SEE	New riser w/2002 lock
TMW_15	03/21/2002	8:25	2	Top of casing at marking	68.88	SEE	New riser w/2002 lock
TMW_14	03/21/2002	8:28	2	Top of casing at marking	72.69	SEE	New riser w/2002 lock
XMW_9	03/21/2002	8:32	4	Top of casing at marking	68.34	SEE	New riser w/2002 lock
BL_3	03/21/2002	8:37	2	Top of casing at marking	70.25	SEE	New riser w/2002 lock
DAC_P1	03/21/2002	8:41	4	Top of casing at marking	65.52	SEE	New riser w/2002 lock

**Notes:**  
 ft-bmp = feet below measurement point  
 in = inches



TAT Environmental Management, Inc

### Groundwater Sampling Data Sheet

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**Project Name:** GW Sampling - Boring-Torrance  
**Project No.:** EM2303  
**Date:** 3/27/02  
**Well Identification:** DAC-PI  
**Prepared By:** NC/AJK  
**Measurement Point Description:** TOC-Redmark  
**Pump Intake Depth (ft-bmp):** ~ 89 ft

Depth to LNAPL (ft-bmp)	Depth to Static Water Level (ft-bmp)	Well Total Depth (ft-bmp)	Water Column Height (ft)	LNAPL Thickness (ft)	One (1) Casing Volume (gallons)	Three (3) Casing Volumes (gallons)
ND	65.69	90.50	24.81	NA	16	48

**Well Diameter (in)**  
 Gallons/Foot: SEE DAILY LOG  
 Purge Method: Good  
 Well Condition: Good

Time	Casing Volumes Purged	Volume Purged (gallons)	Flow Rate (gpm)	Water Level (ft-bmp)	Ph	Temperature (°C)	Turbidity (NTU)	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Observations
11:50	0.5	8	1.8	69.58	7.31	23.3	36.6	1.88	4.59	+29	clear
11:54	1	16	2.0	70.40	7.30	23.3	34.5	1.45	4.50	+7	" "
11:58	1.5	24	2.0	70.82	7.22	23.3	4.7	1.85	4.97	+19	" "
12:02	2	32	2.0	71.14	7.19	23.4	2.1	1.97	5.47	+47	" "
12:05	2.5	40	2.6	71.22	7.17	23.4	0.6	1.98	5.66	+65	" "
12:09	3	48	2.0	71.35	7.16	23.4	0.4	2.00	5.77	+82	" "

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	Water Level at Sampling Time (ft-bmp)	Sample Collection Time	Sample Identification
11:45	12:09	2.1	48	3	70.65	12:15	DAC-PI-032702-1215

**Notes:** Soft well bottom  
 PID = 0.1 ppm

ft-bmp = feet below measuring point  
 LNAPL = light non-aqueous phase liquid  
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TMT Environmental Management, Inc

### Groundwater Sampling Data Sheet

**ENTERED**  
2/27/02

**Project Name:** GW Sampling - Boeing - Torrance      **Date:** 3/26/02  
**Project No.:** EM2303      **Prepared By:** NC/RK  
**Well Identification:** TMW-2      **Pump Intake Depth (ft-bmp):** ~ 84 ft  
**Measurement Point Description:** TOC - BLUEMARK

Depth to LNAPL (ft-bmp)	Depth to Static Water Level (ft-bmp)	Well Total Depth (ft-bmp)	Water Column Height (ft)	LNAPL Thickness (ft)	One (1) Casing Volume (gallons)	Three (3) Casing Volumes (gallons)
ND	69.51	85.18	15.67	NA	3	9

**Well Diameter (in)**

Gallons/Foot	
0.75	2
4	6
6	1.47

**Field Equipment:** SEE DAILY LOG  
**Purge Method:**

**Well Condition:** Good (TOC above ground surface)

Time	Casing Volumes Purged	Volume Purged (gallons)	Flow Rate (gpm)	Water Level (ft-bmp)	Ph	Temperature (°C)	Turbidity (NTU)	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Observations
18:21	0.5	1.5	0.75	72.92	7.60	22.2	45.8	3.20	3.35	-83	tarry, smelly
18:23	1	3	0.75	73.00	7.62	22.4	8.2	3.11	3.04	-90	mostly clear
18:24	1.5	4.5	1.5	73.44	7.70	22.7	6.5	2.91	2.72	-100	clear
18:26	2	6	0.75	73.98	7.73	22.5	0.4	3.00	2.54	-104	clear
18:28	2.5	7.5	0.75	74.13	7.76	22.5	0.3	2.92	2.38	-110	"
18:29	3	9	1.5	74.15	7.79	22.5	1.5	2.84	2.28	-113	"

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery Water Level Depth	Water Level at Sampling Time (ft-bmp)	Sample Collection Time	Sample Identification
18:19	18:29	1.0	9	3	72.64	72.64	18:35	TMW-2-032602-1835

**Notes:** soft well bottom  
 PID = 0.1 ppm

ft-bmp = feet below measuring point  
 LNAPL = light non-aqueous phase liquid  
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TAIT Environmental Management, Inc

### Groundwater Sampling Data Sheet

**Project Name:** GW Sampling - Boeing-Torrance  
**Project No.:** EM2303  
**Well Identification:** TMW-3  
**Date:** 3/26/02  
**Prepared By:** NC/RK  
**Pump Intake Depth (ft-bmp):** ~ 80 ft

**Measurement Point Description:** TOC - BlueMark

Depth to LNAPL (ft-bmp)	Depth to Static Water Level (ft-bmp)	Well Total Depth (ft-bmp)	Water Column Height (ft)	LNAPL Thickness (ft)	One (1) Casing Volume (gallons)	Three (3) Casing Volumes (gallons)
ND	65.05	81.77	16.72	NA	3	9

**Well Diameter (in)**  
 Gallons/Foot: SEE DAILY LOG.  
 Purge Method:

Time	Casing Volumes Purged	Volume Purged (gallons)	Flow Rate (gpm)	Water Level (ft-bmp)	Ph	Temperature (°C)	Turbidity (NTU)	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Observations	Well Condition: Good (TOC above ground surface)		
												Purge End Time	Average Flow (gpm)	Purge Time
17:34	0.5	1.5	1.5	65.56	8.02	22.4	2999	1.45	8.34	+66	Somewhat silty			
17:36	1	3	0.75	65.65	8.03	23.1	2999	1.44	7.42	+32	clear			
17:38	1.5	4.5	0.75	65.71	8.04	23.1	203	1.42	7.31	+18	clear			
17:40	2	6	0.75	65.75	8.04	23.1	93.2	1.41	7.18	+19	clear			
17:42	2.5	7.5	0.75	65.78	8.03	23.1	57.1	1.42	7.04	+20	" "			
17:43	3	9	1.5	65.80	8.02	23.1	30.3	1.42	6.98	+25	" "			

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery Water Level Depth	Water Level at Sampling Time (ft-bmp)	Sample Collection Time	Sample Identification
17:33	17:43	1.0	9	3	68.39	65.80	17:45	TMW-3-032602-1745

**Notes:** Soft well bottom  
 PID = 0.1 ppm

ft-bmp = feet below measuring point  
 LNAPL = light non-aqueous phase liquid  
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TAIT Environmental Management, Inc

### Groundwater Sampling Data Sheet

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*pp/10/02*

**Project Name:** GW Sampling - Boeing-Torrance  
**Project No.:** EM2303  
**Well Identification:** TMW-5  
**Measurement Point Description:** TOC - BLUEMARK

**Date:** 3/26/02  
**Prepared By:** NC/RK  
**Pump Intake Depth (ft-bmp):** ~ 82 ft

Depth to LNAPL (ft-bmp)	Depth to Static Water Level (ft-bmp)	Well Total Depth (ft-bmp)	Water Column Height (ft)	LNAPL Thickness (ft)	One (1) Casing Volume (gallons)	Three (3) Casing Volumes (gallons)
ND	67.54	83.18	15.64	NA	3	9

Well Diameter (in)	Gallons/Foot			Purge Method:
	0.75	2	4	
0.75	0.16	0.65	1.47	SEE DAILY LOG

Time	Casing Volumes Purged	Volume Purged (gallons)	Flow Rate (gpm)	Water Level (ft-bmp)	Ph	Temperature (°C)	Turbidity (NTU)	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Observations
17:02	0.5	1.5	0.75	67.83	8.32	23.3	>999	0.903	7.92	+9	mostly clear
17:04	1	3	0.75	67.85	8.30	23.6	506	0.859	7.19	-9	clear
17:06	1.5	4.5	0.75	67.90	8.31	23.4	105	0.837	6.92	-22	"
17:07	2	6	1.5	67.93	8.31	23.2	72.4	0.831	6.78	-21	"
17:09	2.5	7.5	0.75	67.96	8.31	23.0	55.3	0.831	6.64	-15	"
17:11	3	9	0.75	67.97	8.29	22.9	48.2	0.830	6.53	-4	"

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery Water Level Depth	Water Level at Sampling Time (ft-bmp)	Sample Collection Time	Sample Identification
17:00	17:11	0.88	9	3	70.97 +2.57	67.97	17:12	TMW-5-032602-1712

**Notes:** Soft well bottom  
 PID = 0.1 ppm

ft-bmp = feet below measuring point  
 LNAPL = light non-aqueous phase liquid  
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TAIT Environmental Management, Inc

### Groundwater Sampling Data Sheet

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Project Name: GW Sampling - Boeing - Torrance Date: 8/26/02  
 Project No.: EM2303 Prepared By: NC/RK  
 Well Identification: TMW-8 Pump Intake Depth (ft-bmp): ~ 81 ft

Measurement Point Description: TOC - Blackmark

Depth to LNAPL (ft-bmp)	Depth to Static Water Level (ft-bmp)	Well Total Depth (ft-bmp)	Water Column Height (ft)	LNAPL Thickness (ft)	One (1) Casing Volume (gallons)	Three (3) Casing Volumes (gallons)
ND	67.46	82.61	15.15	NA	2	6

Well Diameter (in)

Gallons/Foot		Purge Method:	
0.75	2	4	6
0.75	0.16	0.65	1.47

Field Equipment: SEE DAILY LOG  
 Well Condition: Good (TOC Above ground surface).

Time	Casing Volumes Purged	Volume Purged (gallons)	Flow Rate (gpm)	Water Level (ft-bmp)	Ph	Temperature (°C)	Turbidity (NTU)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Observations
16:24	0.5	1	1	67.92	7.96	23.2	243	1.67	5.54	-36	clear
16:25	1	2	1	67.94	7.92	23.4	205	1.67	4.51	-49	"
16:26	1.5	3	1	67.94	7.89	23.6	103	1.65	3.79	-51	"
16:27	2	4	1	67.96	7.86	23.5	85.4	1.64	3.44	-51	"
16:28	2.5	5	1	67.98	7.85	23.4	73.2	1.65	3.20	-51	"
16:29	3	6	1	67.99	7.85	23.6	112	1.64	2.99	-52	"

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery Water Level Depth	Water Level at Sampling Time (ft-bmp)	Sample Collection Time	Sample Identification
16:23	16:29	1.0	6	3	70.49	67.99	16:30	TMW-8-032602-1630

Notes: Soft well bottom  
PLD = 0.1 ppm

ft-bmp = feet below measuring point  
 LNAPL = light non-aqueous phase liquid  
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TAIT Environmental Management, Inc

### Groundwater Sampling Data Sheet

*App 6/27*  
*NC/RK*

**Project Name:** GW Sampling - Beeing - Torrance  
**Project No.:** EM2303  
**Well Identification:** WCC-6S  
**Measurement Point Description:** TOC - Blackmark  
**Date:** 3/26/02  
**Prepared By:** NC/RK  
**Pump Intake Depth (ft-bmp):** ~ 79 ft.

Depth to LNAPL (ft-bmp)	Depth to Static Water Level (ft-bmp)	Well Total Depth (ft-bmp)	Water Column Height (ft)	LNAPL Thickness (ft)	One (1) Casing Volume (gallons)	Three (3) Casing Volumes (gallons)
ND	64.78	79.90	15.12	NA	10	30

**Well Diameter (in)**

Gallons/Foot		Field Equipment:	Purge Method:
0.75	2	SEE DAILY LOG	
4	6		
6	6		

**Well Condition:** Dirt sits in well box up to TOC.

Time	Casing Volumes Purged	Volume Purged (gallons)	Flow Rate (gpm)	Water Level (ft-bmp)	Ph	Temperature (°C)	Turbidity (NTU)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Observations
15:26	0.5	5	1.67	66.75	8.17	24.0	7999	1.77	7.24	-149	grey, has odor
15:30	1	10	1.25	66.10	8.12	24.6	989	1.87	3.94	-135	grey, has odor
15:35	1.5	15	1	65.96	7.97	24.7	7999	2.07	3.01	-142	grey, has odor
15:40	2	20	1	66.37	7.93	24.4	7999	2.15	2.60	-143	grey, has odor
15:44	2.5	25	1.25	66.64	7.92	23.8	7999	2.17	2.35	-138	grey, has odor
15:49	3	30	1.25	66.45	7.89	24.0	7999	2.20	2.12	-137	grey, has odor

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery Water Level Depth	Water Level at Sampling Time (ft-bmp)	Sample Collection Time	Sample Identification
15:23	15:49	1.2	30	3	67.80	66.45	15:50	WCC-6S-032602-1550

**Notes:** Soft well bottom pump stopped (generator overload) at 15:27  
 Erratic recharge rate during purging.  
 PID = 0.5 ppm

ft-bmp = feet below measuring point  
 LNAPL = light non-aqueous phase liquid  
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Groundwater Sampling Data Sheet

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2/27/02  
2/27/02

**Project Name:** GW Sampling - Boeing Torrance  
**Project No.:** EM2303  
**Well Identification:** TMW-7  
**Date:** 3/26/02  
**Prepared By:** NC/RK  
**Pump Intake Depth (ft-bmp):** ~ 82 ft  
**Measurement Point Description:** TOC - Redmark

Depth to LNAPL (ft-bmp)	Depth to Static Water Level (ft-bmp)	Well Total Depth (ft-bmp)	Water Column Height (ft)	LNAPL Thickness (ft)	One (1) Casing Volume (gallons)	Three (3) Casing Volumes (gallons)
ND	66.05	83.64	17.59	NA	3	9

**Well Diameter (in)**

Gallons/Foot	
0.75	2
4	4
6	6

**Field Equipment:** SEE DAILY LOG  
**Purge Method:**

**Well Condition:** Good (TOC above ground surface)

Time	Casing Volumes Purged	Volume Purged (gallons)	Flow Rate (gpm)	Water Level (ft-bmp)	Ph	Temperature (°C)	Turbidity (NTU)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Observations
14:32	0.5	1.5	0.75	66.68	8.10	23.2	188	1.76	6.49	+76	clear
14:33	1	3	1.5	66.72	8.08	23.2	147	1.76	6.01	+69	"
14:35	1.5	4.5	0.75	66.75	8.06	23.2	114	1.75	5.50	+65	"
14:36	2	6	1.5	66.77	8.06	23.3	92.7	1.74	5.24	+64	"
14:38	2.5	7.5	0.75	66.79	8.05	23.2	72.9	1.74	5.04	+63	"
14:39	3	9	1.5	66.80	8.05	23.3	51.4	1.74	4.90	+63	"

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery Water Level Depth	Water Level at Sampling Time (ft-bmp)	Sample Collection Time	Sample Identification
14:30	14:39	1.1	9	3	69.57	66.80	14:41	TMW-7-032602-1441

**Notes:** Soft well bottom  
 PID = 0.1 ppm

ft-bmp = feet below measuring point  
 LNAPL = light non-aqueous phase liquid  
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TAIT Environmental Management, Inc

### Groundwater Sampling Data Sheet

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**Project Name:** GW Sampling - Boeing Torrance  
**Project No.:** EM2303  
**Well Identification:** TMW-4  
**Date:** 3/26/02  
**Prepared By:** NC/RK  
**Measurement Point Description:** TOC - BlueMark  
**Pump Intake Depth (ft-bmp):** ~ 79 ft

Depth to LNAPL (ft-bmp)	Depth to Static Water Level (ft-bmp)	Well Total Depth (ft-bmp)	Water Column Height (ft)	LNAPL Thickness (ft)	One (1) Casing Volume (gallons)	Three (3) Casing Volumes (gallons)
ND	66.20	80.28	14.08	NA	2	6

Well Diameter (in)	Gallons/Foot			Purge Method:
	0.75	4	6	
0.75	0.16	0.65	1.47	SEE DAILY LOGS

Time	Casing Volumes Purged	Volume Purged (gallons)	Flow Rate (gpm)	Water Level (ft-bmp)	Ph	Temperature (°C)	Turbidity (NTU)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Observations
13:51	0.5	1	0.5	66.55	8.0	23.4	555.0	1.82	6.93	+68	clear
13:52	1	2	1	66.60	8.01	23.1	289	1.85	6.76	+61	clear
13:54	1.5	3	0.5	66.63	8.01	23.2	127	1.85	6.38	+51	clear
13:55	2	4	1	66.69	8.02	23.4	109	1.82	6.12	+10	"
13:56	2.5	5	1	66.73	8.04	23.2	64	1.84	6.13	+17	"
13:57	3	6	1	66.76	8.02	23.0	36	1.84	6.01	+33	"

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery Water Level Depth	Water Level at Sampling Time (ft-bmp)	Sample Collection Time	Sample Identification
13:49	13:57	0.9	6	3	69.02	66.76	14:00	TMW4-TAIT032602-0001
								TMW4-TAIT032602-

**Notes:** Soft well bottom  
 PVD = 0.4 ppm  
 collected duplicate sample  
 TMW4-TAIT032602-0002

ft-bmp = feet below measuring point  
 LNAPL = light non-aqueous phase liquid  
 M:\TEM2\Field Forms\Well Sampling Field Data Sheet.DOC



TAIT Environmental Management, Inc

### Groundwater Sampling Data Sheet



**Project Name:** GW Sampling - Boeing Torrance  
**Project No.:** EN2303  
**Well Identification:** WCC-45  
**Date:** 3/6/02  
**Prepared By:** NC/RK  
**Pump Intake Depth (ft-bmp):** ~88 ft

**Measurement Point Description:** TOC - Blackmark

Depth to LNAPL (ft-bmp)	Depth to Static Water Level (ft-bmp)	Well Total Depth (ft-bmp)	Water Column Height (ft)	LNAPL Thickness (ft)	One (1) Casing Volume (gallons)	Three (3) Casing Volumes (gallons)
ND	62.77	89.72	26.95	NA	18	54

**Well Diameter (in)**

0.75	2	4	6
0.75	2	4	6

**Gallons/Foot**

0.75	2	4	6
0.75	2	4	6

**Field Equipment:** SEE DAILY LOG  
**Purge Method:**  
**Well Condition:** Good (water in well box)

Time	Casing Volumes Purged	Volume Purged (gallons)	Flow Rate (gpm)	Water Level (ft-bmp)	Ph	Temperature (°C)	Turbidity (NTU)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Observations
12:47	0.5	9	1.3	63.30	7.90	23.5	14.1	2.50	8.13	+35	clear
12:52	1	18	1.8	63.35	7.90	23.5	8.6	2.50	5.35	+42	"
12:57	1.5	27	1.8	63.36	7.93	23.5	0.8	2.27	4.44	+23	"
13:02	2	36	1.8	63.35	7.94	23.5	4.6	2.19	6.17	+9	"
13:07	2.5	45	1.8	63.36	7.97	23.5	5.1	2.01	3.86	-6	"
13:12	3	54	1.8	63.35	7.98	23.5	5.2	1.99	3.67	-11	"

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery Water Level Depth	Water Level at Sampling Time (ft-bmp)	Sample Collection Time	Sample Identification
12:40	13:12	1.7	54	3	68.16	63.35	13:15	WCC-45-032602-1315

**Notes:** soft well bottom  
 PVD = 6.8 ppm

ft-bmp = feet below measuring point  
 LNAPL = light non-aqueous phase liquid  
 M:\ITEM2\Field Forms\Well Sampling Field Data Sheet.DOC



TAIT Environmental Management, Inc

Groundwater Sampling Data Sheet

ENTERED 2/21/02

**Project Name:** GW Sampling - Boeing-Terrance  
**Project No.:** EM2303  
**Well Identification:** TMW-9  
**Measurement Point Description:** TOC - Blackmark  
**Date:** 3/26/02  
**Prepared By:** NC/RK  
**Pump Intake Depth (ft-bmp):** ~79 ft

Depth to LNAPL (ft-bmp)	Depth to Static Water Level (ft-bmp)	Well Total Depth (ft-bmp)	Water Column Height (ft)	LNAPL Thickness (ft)	One (1) Casing Volume (gallons)	Three (3) Casing Volumes (gallons)
ND	66.35	80.16	13.81	NA	2	6

**Well Diameter (in)**

Gallons/Foot	
0.75	2
4	4
6	6

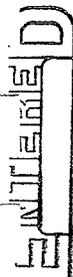
**Field Equipment:** SEE DAILY LOG  
**Purge Method:**

Time	Casing Volumes Purged	Volume Purged (gallons)	Flow Rate (gpm)	Water Level (ft-bmp)	Ph	Temperature (°C)	Turbidity (NTU)	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Observations
12:11	0.5	1	1	67.47	8.13	23.3	291	1.25	8.21	+79	clear
12:12	1	2	1	67.81	8.14	23.3	239	1.25	7.26	+55	"
12:13	1.5	3	1	68.12	8.15	23.3	385	1.27	6.76	+46	"
12:14	2	4	1	68.25	8.15	23.3	783	1.28	6.52	+42	"
12:15	2.5	5	1	67.99	8.15	23.6	>999	1.29	6.27	+37	silty
12:16	3	6	1	68.04	8.15	23.4	7999	1.29	6.21	+36	mostly clear

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery Water Level Depth	Water Level at Sampling Time (ft-bmp)	Sample Collection Time	Sample Identification
12:10	12:16	1.0	6	3	69.11	68.04	12:20	TMW-9-032002-1220

**Notes:** Soft Well bottom  
 PID = 0.1 ppm

ft-bmp = feet below measuring point  
 LNAPL = light non-aqueous phase liquid  
 M:\ITEM2\Field Forms\Well Sampling Field Data Sheet.DOC



TMT Environmental Management, Inc.

### Groundwater Sampling Data Sheet

**Project Name:** GW Sampling - Boeing Torrance  
**Project No.:** EM2303  
**Well Identification:** BL-3  
**Date:** 3/26/02  
**Prepared By:** NC/RK  
**Pump Intake Depth (ft-bmp):** ~80 ft

**Measurement Point Description:** TOC - Blackmark

Depth to LNAPL (ft-bmp)	Depth to Static Water Level (ft-bmp)	Well Total Depth (ft-bmp)	Water Column Height (ft)	LNAPL Thickness (ft)	One (1) Casing Volume (gallons)	Three (3) Casing Volumes (gallons)
ND	70.37	81.29	10.92	NA	2	6

**Well Diameter (in)**  
 Gallons/Foot: SEE DAILY LOG  
 Purge Method:

Time	Casing Volumes Purged	Volume Purged (gallons)	Flow Rate (gpm)	Water Level (ft-bmp)	Ph	Temperature (°C)	Turbidity (NTU)	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Observations
10:39	0.5	1	0.5	70.75	6.45	23.5	417	2.97	9.41	+124	mostly clear
10:40	1	2	1	70.79	6.49	23.3	355	3.14	8.87	+117	clear
10:41	1.5	3	1	70.81	7.20	23.3	310	3.22	8.39	+114	"
10:42	2	4	1	70.83	7.49	23.3	261	3.27	8.13	+114	"
11:43	2.5	5	1	70.85	7.55	23.3	203	3.31	7.91	+114	"
11:44	3	6	1	70.85	7.58	23.4	146	3.30	7.77	+115	"

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery Water Level Depth	Water Level at Sampling Time (ft-bmp)	Sample Collection Time	Sample Identification
11:37	11:44	0.92	6	3	72.55	70.85	11:45	BL-3-032602-1145

**Notes:** Solid well bottom  
 PID = 38.6 ppm

ft-bmp = feet below measuring point  
 LNAPL = light non-aqueous phase liquid  
 M:\TEM2\Field Forms\Well Sampling Field Data Sheet.DOC



TAIT Environmental Management, Inc

### Groundwater Sampling Data Sheet

**ENTERED**

Project Name: GW Sampling - being - Torrance Date: 3/26/02  
 Project No.: EN2303 Prepared By: NC/RK  
 Well Identification: TMW-6 Pump Intake Depth (ft-bmp): ~84 ft

Measurement Point Description: TOC-Benchmark

Depth to LNAPL (ft-bmp)	Depth to Static Water Level (ft-bmp)	Well Total Depth (ft-bmp)	Water Column Height (ft)	LNAPL Thickness (ft)	One (1) Casing Volume (gallons)	Three (3) Casing Volumes (gallons)
ND	70.68	85.79	15.11	NA	2	6

Well Diameter (in)	Gallons/Foot			Field Equipment: SEE DAILY LOG	Purge Method:
	0.75	2	4		
0.75	0.02	0.16	0.65	Well Condition: <u>Good (TOC above ground surface)</u>	

Time	Casing Volumes Purged	Volume Purged (gallons)	Flow Rate (gpm)	Water Level (ft-bmp)	Ph	Temperature (°C)	Turbidity (NTU)	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Observations
10:57	0.5	1	0.5	70.95	5.90	22.1	98.4	1.65	12.35	+176	clear
10:58	1	2	1	70.96	6.10	22.4	123	1.65	9.24	+169	clear
10:59	1.5	3	1	70.95	6.26	22.4	83.7	1.66	8.24	+160	clear
11:01	2	4	0.5	70.96	6.42	22.6	52.9	1.65	7.77	+150	" "
11:02	2.5	5	1	70.97	6.51	22.6	40.9	1.63	7.53	+144	" "
11:03	3	6	1	70.97	6.56	22.4	19.2	1.62	7.37	+139	" "

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery Water Level Depth	Water Level at Sampling Time (ft-bmp)	Sample Collection Time	Sample Identification
10:55	11:03	0.83	6	3	73.70	70.97	11:05	TMW-6-032602-1105

**Notes:** Soft well bottom  
 PID = 0.2 ppm

ft-bmp = feet below measuring point  
 LNAPL = light non-aqueous phase liquid  
 M:\ITEM2\Field Forms\Well Sampling Field Data Sheet.DOC



TAIT Environmental Management, Inc

# Groundwater Sampling Data Sheet

ENTERED

**Project Name:** GUN Sampling - Boeing Torrance  
**Project No.:** EM2303  
**Well Identification:** XMW-18  
**Measurement Point Description:** TOC - Northside

**Date:** 3/26/02  
**Prepared By:** NC RK  
**Pump Intake Depth (ft-bmp):** ~ 120 ft

Depth to LNAPL (ft-bmp)	Depth to Static Water Level (ft-bmp)	Well Total Depth (ft-bmp)	Water Column Height (ft)	LNAPL Thickness (ft)	One (1) Casing Volume (gallons)	Three (3) Casing Volumes (gallons)
ND	65.58	139.01	73.43	NA	48	144

**Well Diameter (in)**

Gallons/Foot	
0.75	2
4	4
6	6

**Field Equipment:** SEE DAILY LOG  
**Purge Method:**

**Well Condition:** Dirt in well box

Time	Casing Volumes Purged	Volume Purged (gallons)	Flow Rate (gpm)	Water Level (ft-bmp)	Ph	Temperature (°C)	Turbidity (NTU)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Observations
9:20	0.5	24	0.24	79.42	9.11	23.8	652	0.762	3.50	-126	mostly clear
10:08	1	48	0.5	79.11	9.09	24.2	>999	0.794	1.35	-142	slightly silty
10:22	1.5	72	1.7	87.55	9.05	23.1	>999	0.790	0.83	-194	silty
10:38	2	96	1.5	86.16	8.85	22.9	>999	0.780	1.11	-197	slightly silty flow
10:49	2.5	120	2.2	86.62	8.83	22.8	>999	0.770	1.0	-199	mostly clear
11:07	3	144	1.3	86.00	8.75	22.7	480	0.761	0.60	-200	clear

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery Water Level Depth	Water Level at Sampling Time (ft-bmp)	Sample Collection Time	Sample Identification
7:41	11:07	1.24	144	3	80.27	80.27	11:15	XMW-18-032702-1115

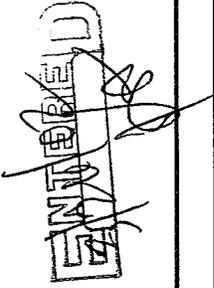
**Notes:** Soft well bottom pump stopped at 7:50, collected duplicate sample. NC started again at 8:21, continued generator problems until ~ 9:45. until ~ 10:00. PID = 0.8 ppm

ft-bmp = feet below measuring point  
 LNAPL = light non-aqueous phase liquid  
 M:\TEM2\Field Forms\Well Sampling Field Data Sheet.DOC



TAIT Environmental Management, Inc

### Groundwater Sampling Data Sheet



**Project Name:** GW Sampling - Boeing - Torrance  
**Project No.:** EM2303  
**Date:** 3/25/02  
**Well Identification:** TMW-1  
**Prepared By:** NC/RK  
**Measurement Point Description:** TOC - Red mark  
**Pump Intake Depth (ft-bmp):**

Depth to LNAPL (ft-bmp)	Depth to Static Water Level (ft-bmp)	Well Total Depth (ft-bmp)	Water Column Height (ft)	LNAPL Thickness (ft)	One (1) Casing Volume (gallons)	Three (3) Casing Volumes (gallons)
ND	69.59	85.17	15.58	NA	3	9

**Well Diameter (in)**  
 Gallons/Foot: SEE DAILY LOG  
 Purge Method:

Time	Casing Volumes Purged	Volume Purged (gallons)	Flow Rate (gpm)	Water Level (ft-bmp)	Ph	Temperature (°C)	Turbidity (NTU)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Observations
0.75	4	6	0.16	0.65	1.47	Good (TOC above ground surface)					
14:34	0.5	1.5	0.75	70.64	6.94	24.23	>999	3.94	5.35	+24	Silty
14:36	1	3	0.75	70.69	6.91	23.65	>999	4.47	5.62	+39	mostly clear
14:37	1.5	4.5	1.5	70.70	6.86	23.07	718	5.14	5.84	+49	" "
14:39	2	6	0.75	70.85	6.87	22.99	346	5.25	5.88	+50	clear
14:43	2.5	7.5	0.38	70.65	6.99	23.49	>999	5.18	4.08	+57	clear
14:47	3	9	0.38	70.66	6.93	23.47	>999	5.20	6.32	+98	clear

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery Water Level Depth	Water Level at Sampling Time (ft-bmp)	Sample Collection Time	Sample Identification
14:32	14:47	0.75	9	3	72.71	70.66	1500	TMW-1-032502-1500

**Notes:** Soft well bottom pump stopped (generator quit) at about 14:40 & at 14:44 PID = 0.2 ppm  
 restarted

ft-bmp = feet below measuring point  
 LNAPL = light non-aqueous phase liquid  
 MATTEM2\Feld Forms\Well Sampling Field Data Sheet.DOC



TMT Environmental Management, Inc

### Groundwater Sampling Data Sheet

**ENTERED**  
3/25/02

**Project Name:** GW Sampling - Boeing - Torrance  
**Project No.:** EM2303  
**Well Identification:** TMW-12  
**Date:** 3/25/02  
**Prepared By:** NCRK  
**Pump Intake Depth (ft-bmp):** ~78 ft.

**Measurement Point Description:** TOC - Benchmark

Depth to LNAPL (ft-bmp)	Depth to Static Water Level (ft-bmp)	Well Total Depth (ft-bmp)	Water Column Height (ft)	LNAPL Thickness (ft)	One (1) Casing Volume (gallons)	Three (3) Casing Volumes (gallons)
ND	66.27	79.26	12.99	NA	2	6

Well Diameter (in)	Gallons/Foot			Purge Method:	Field Equipment:
	0.75	4	6		
0.75	0.02	0.65	1.47		SEE DAILY LOG

Time	Casing Volumes Purged	Volume Purged (gallons)	Flow Rate (gpm)	Water Level (ft-bmp)	Ph	Temperature (°C)	Turbidity (NTU)	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Observations
13:43	0.5	1	1	67.30	6.94	23.41	7999	2.14	3.46	+34	mostly clear
13:44	1	2	1	67.34	6.86	23.58	2999	2.03	3.89	+38	mostly clear
13:45	1.5	3	1	67.21	6.84	23.56	896	1.94	2.15	+40	" "
13:46	2	4	1	66.83	6.84	23.75	883	1.87	1.90	+41	" "
13:48	2.5	5	0.5	67.01	6.81	24.83	491	1.94	1.97	+24	clear
13:49	3	6	1	67.12	6.81	24.50	473	1.98	2.22	+27	clear

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery Water Level Depth	Water Level at Sampling Time (ft-bmp)	Sample Collection Time	Sample Identification
13:42	13:49	0.92	6	3	68.87	67.12	13:55	TMW-12-032502-1355

**Notes:** Soft well bottom  
 PID = 0.3

ft-bmp = feet below measuring point  
 LNAPL = light non-aqueous phase liquid  
 M:ITEM2\Field Forms\Well Sampling Field Data Sheet.DOC



TAIT Environmental Management, Inc

### Groundwater Sampling Data Sheet



**Project Name:** GW Sampling - Boating - Terrace  
**Date:** 3/25/02  
**Project No.:** EM0803  
**Prepared By:** NC/RK  
**Well Identification:** WCC-3S  
**Pump Intake Depth (ft-bmp):**

**Measurement Point Description:** TDC - Blackmark

Depth to LNAPL (ft-bmp)	Depth to Static Water Level (ft-bmp)	Well Total Depth (ft-bmp)	Water Column Height (ft)	LNAPL Thickness (ft)	One (1) Casing Volume (gallons)	Three (3) Casing Volumes (gallons)
ND	64.16	88.89	24.73	NA	16	48

Well Diameter (in)	Gallons/Foot			Well Condition:	Field Equipment:
	0.75	4	6		
0.75	0.02	0.16	1.47	Good; Dirt accumulated in well box	SEE DAILY LOG

Time	Casing Volumes Purged	Volume Purged (gallons)	Flow Rate (gpm)	Water Level (ft-bmp)	Ph	Temperature (°C)	Turbidity (NTU)	Conductivity (µmS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Observations
12:21	0.5	8	0.96	64.48	6.37	24.33	196	4.37	2.31	-106	clear
12:25	1	16	2	64.52	6.41	24.08	207	4.53	0.89	-125	" "
12:31	1.5	24	1.3	64.55	6.50	23.88	177	3.74	0.26	-155	" "
12:36	2	32	1.6	64.56	6.54	23.86	223	3.38	0.18	-170	" "
12:41	2.5	40	1.6	64.54	6.58	23.85	299	2.94	0.14	-179	" "
12:48	3	48	1.1	64.55	6.61	23.88	274	2.86	0.10	-182	" "

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery Water Level Depth	Water Level at Sampling Time (ft-bmp)	Sample Collection Time	Sample Identification
12:12	12:48	1.4	48	3	69.11	64.55	12:50	WCC-3S-032502-1250

**Notes:** well bottom semi-soft. Pump stopped at ~12:15.  
 PID = 0.4 ppm Tubing not completely in well, well cap not placed firmly on well.

ft-bmp = feet below measuring point  
 LNAPL = light non-aqueous phase liquid  
 M:\TEM2\Field Forms\Well Sampling Field Data Sheet.DOC



TAIT Environmental Management, Inc

### Groundwater Sampling Data Sheet

**ENTERED**

**Project Name:** GW Sampling - Boeing - Torrance  
**Date:** 3/25/02  
**Project No.:** EM2303  
**Prepared By:** NC/RK  
**Well Identification:** WCC-75  
**Pump Intake Depth (ft-bmp):** ~ 89 ft.

**Measurement Point Description:** TOC - Blackmark

Depth to LNAPL (ft-bmp)	Depth to Static Water Level (ft-bmp)	Well Total Depth (ft-bmp)	Water Column Height (ft)	LNAPL Thickness (ft)	One (1) Casing Volume (gallons)	Three (3) Casing Volumes (gallons)
ND	63.61	90.44	26.83	NA	17	51

**Well Diameter (in)**

Gallons/Foot		Field Equipment:
0.75	2	SEE DAILY
4	4	
6	6	

**Purge Method:**

**Well Condition:** Good.

Time	Casing Volumes Purged	Volume Purged (gallons)	Flow Rate (gpm)	Water Level (ft-bmp)	Ph	Temperature (°C)	Turbidity (NTU)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Observations
11:04	0.5	8.5	1.7	64.01	7.15	23.60	49.4	1.69	9.61	+37	clear
11:08	1	17	2.1	64.03	7.15	23.54	60.7	1.61	5.73	+42	" "
11:13	1.5	25.5	1.7	64.04	7.14	23.53	133	1.50	4.58	+47	" "
11:18	2	34	1.7	64.04	7.15	23.49	214	1.37	4.28	+50	" "
11:24	2.5	42.5	1.4	64.05	7.15	23.48	477	1.30	4.10	+52	" "
11:31	3	51	1.4	64.07	7.16	23.47	830	1.23	4.03	+55	" "

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery Water Level Depth	Water Level at Sampling Time (ft-bmp)	Sample Collection Time	Sample Identification
10:59	11:31	1.7	51	3	68.98	64.07	11:35	WCC-75-082502-1135

**Notes:** Semi-soft well bottom  
 PID = 0.4

ft-bmp = feet below measuring point  
 LNAPL = light non-aqueous phase liquid  
 M:\ITEM2\field Forms\Well Sampling Field Data Sheet.DOC



TAIT Environmental Management, Inc

### Groundwater Sampling Data Sheet

ENTERED  
3/25/02  
NC/RK

**Project Name:** GW Sampling - Boeing - Torrance  
**Project No.:** EM2303  
**Date:** 3/25/02  
**Prepared By:** NC/RK  
**Well Identification:** WCC-125  
**Pump Intake Depth (ft-bmp):**  
**Measurement Point Description:** TOC-Blackmark

Depth to LNAPL (ft-bmp)	Depth to Static Water Level (ft-bmp)	Well Total Depth (ft-bmp)	Water Column Height (ft)	LNAPL Thickness (ft)	One (1) Casing Volume (gallons)	Three (3) Casing Volumes (gallons)
	60.52	90.35	29.83		20	60

**Well Diameter (in)**

Gallons/Foot	
0.75	2
4	4
6	6

**Field Equipment:** SEE DAILY  
**Purge Method:**

**Well Condition:** DIFFICULT TO ACCESS DUE TO NARROW HOLE

Time	Casing Volumes Purged	Volume Purged (gallons)	Flow Rate (gpm)	Water Level (ft-bmp)	Ph	Temperature (°C)	Turbidity (NTU)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Observations
9:30	0.5	10	2.5	61.62	7.10	23.52	61.0	1.37	7.24	+40	clear
9:40	1	20	2.5	61.66	7.16	23.52	35.1	1.32	5.31	+45	clear
9:45	1.5	30	2.0	61.69	7.19	23.53	11.7	1.26	4.86	+52	clear
9:50	2	40	2.0	61.69	7.20	23.54	10.0	1.23	4.78	+57	clear
9:57	2.5	50	~1.4	61.71	7.20	23.62	3.7	1.24	4.56	+53	clear
10:02	3	60	2.0	61.72	7.18	23.56	1.0	1.21	4.80	+61	clear

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery Water Level Depth	Water Level at Sampling Time (ft-bmp)	Sample Collection Time	Sample Identification
9:32	10:02	2.10	60	3	66.49	61.72	10:05	WCC-125-032502-1005

**Notes:** Soft well bottom  
 PID = 3.1 ppm

ft-bmp = feet below measuring point  
 LNAPL = light non-aqueous phase liquid  
 M:\TEM2\Field Forms\Well Sampling Field Data Sheet.DOC



TAIT Environmental Management, Inc

### Groundwater Sampling Data Sheet

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**Project Name:** GW Sampling - Boeing - Torrance **Date:** 3/22/02  
**Project No.:** ENR2303 **Prepared By:** NC, RK  
**Well Identification:** TMW-14 **Pump Intake Depth (ft-bmp):**  
**Measurement Point Description:** TOC - Blackmark

Depth to LNAPL (ft-bmp)	Depth to Static Water Level (ft-bmp)	Well Total Depth (ft-bmp)	Water Column Height (ft)	LNAPL Thickness (ft)	One (1) Casing Volume (gallons)	Three (3) Casing Volumes (gallons)
ND	72.74	87.97	15.23	NA	3	9

**Well Diameter (in)**

Gallons/Foot	
0.75	2
4	6
0.65	1.47

**Field Equipment:** SEE DAILY LOG  
**Purge Method:**

**Well Condition:** GOOD (TOC above ground surface)

Time	Casing Volumes Purged	Volume Purged (gallons)	Flow Rate (gpm)	Water Level (ft-bmp)	Ph	Temperature (°C)	Turbidity (NTU)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Observations
8:08	0.5	1.5	1.5	73.35	6.40	23.64	7999	3.70	3.32	+21	Silty
8:10	1	3	0.75	73.61	6.62	23.32	7999	3.47	4.30	+25	mostly clear
8:11	1.5	4.5	1.5	73.65	6.72	23.34	335	3.41	4.95	+32	clear
8:12	2	6	1.5	73.65	6.75	23.41	171	3.36	5.18	+35	clear
8:14	2.5	7.5	0.75	73.68	6.78	23.41	106	3.35	5.21	+37	clear
8:15	3	9	1.5	73.48	6.79	23.43	95.6	3.30	5.26	+38	clear

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery Water Level Depth	Water Level at Sampling Time (ft-bmp)	Sample Collection Time	Sample Identification
8:07	8:15	1.25	9	3	75.79	73.48	08:15	TMW-14-032202-0815

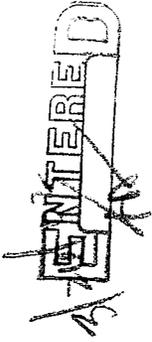
**Notes:** Soft Well bottom  
 PID = 0.1 ppm

ft-bmp = feet below measuring point  
 LNAPL = light non-aqueous phase liquid  
 M:\TEM2\Field Forms\Well Sampling Field Data Sheet.DOC



TAI Environmental Management, Inc

### Groundwater Sampling Data Sheet



**Project Name:** G/W Sampling - Boeing - Torrance **Date:** 8/22/02  
**Project No.:** EM2303 **Prepared By:** NC/RC  
**Well Identification:** TMW-11 **Pump Intake Depth (ft-bmp):**  
**Measurement Point Description:** TOC - Redmark

Depth to LNAPL (ft-bmp)	Depth to Static Water Level (ft-bmp)	Well Total Depth (ft-bmp)	Water Column Height (ft)	LNAPL Thickness (ft)	One (1) Casing Volume (gallons)	Three (3) Casing Volumes (gallons)
ND	61.95	77.94	15.99	NA	3	9

**Well Diameter (in)**

Gallons/Foot		Field Equipment:
0.75	2	SEE DAILY LOG
4	4	
6	6	

**Purge Method:**  
**Well Condition:** Good

Time	Casing Volumes Purged	Volume Purged (gallons)	Flow Rate (gpm)	Water Level (ft-bmp)	Ph	Temperature (°C)	Turbidity (NTU)	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Observations
9:06	0.5	1.5	0.75	62.59	6.92	23.97	856	1.95	3.31	+30	mostly clear
9:08	1	3	0.75	62.55	6.92	23.72	166	1.88	2.42	+49	clear
9:09	1.5	4.5	1.5	-	6.92	23.68	99.6	1.85	2.31	+50	clear
9:11	2	6	0.75	62.55	6.91	23.63	130	1.83	2.26	+54	clear
9:13	2.5	7.5	0.75	62.58	6.91	23.59	124	1.80	2.27	+56	clear
9:14	3	9	1.5	62.60	6.92	23.60	14.3	1.81	2.27	+56	clear

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery Water Level Depth	Water Level at Sampling Time (ft-bmp)	Sample Collection Time	Sample Identification
9:04	9:14	1.0	9	3	65.15	62.60	9:15	TMW-11-032202-0915

**Notes:** soft well bottom pump stopped at 8:45  
 PID = 0.6 ppm

ft-bmp = feet below measuring point  
 LNAPL = light non-aqueous phase liquid  
 M:\TEM2\Field Forms\Well Sampling Field Data Sheet.DOC



TAI Environmental Management, Inc

### Groundwater Sampling Data Sheet

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JFB

**Project Name:** GW Sampling - Boeing - Torrance      **Date:** 3/22/02  
**Project No.:** EM2302      **Prepared By:** NC/RK  
**Well Identification:** TMW-15      **Pump Intake Depth (ft-bmp):**

**Measurement Point Description:** TOC - Redmark

Depth to LNAPL (ft-bmp)	Depth to Static Water Level (ft-bmp)	Well Total Depth (ft-bmp)	Water Column Height (ft)	LNAPL Thickness (ft)	One (1) Casing Volume (gallons)	Three (3) Casing Volumes (gallons)
ND	69.39	87.44	18.05	NA	3	9

**Well Diameter (in)**

Gallons/Foot		Field Equipment:	Purge Method:
0.75	2	SEE DAILY LOG	
4	4		
6	6		

**Well Condition:** Good (toe above ground surface)

Time	Casing Volumes Purged	Volume Purged (gallons)	Flow Rate (gpm)	Water Level (ft-bmp)	Ph	Temperature (°C)	Turbidity (NTU)	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Observations
9:48	0.5	1.5	0.75	75.04	6.12	22.52	>999	0.911	1.83	-183	mostly clear
09:50	1	3	0.75	76.81	7.05	23.22	>999	0.658	0.78	-180	" "
9:52	1.5	4.5	0.75	77.89	7.09	23.41	>999	0.839	1.77	-158	" "
9:54	2	6	0.75	78.21	7.14	23.48	644	0.94	1.98	-149	" "
9:56	2.5	7.5	0.75	77.82	7.17	23.56	232	0.94	2.84	-138	clear
9:59	3	9	0.5	77.85	7.16	23.78	>999	0.94	3.29	-83	mostly clear

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery Water Level Depth	Water Level at Sampling Time (ft-bmp)	Sample Collection Time	Sample Identification
9:46	9:59	0.71	9	3	73.00	73.00	10:05	TMW-15-032202-1005

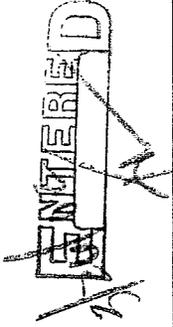
**Notes:** Soft well bottom observed sediment accumulating in toriba flow-through cell. Sediment buildup may have affected parameters.  
 PID = 5.4 ppm

ft-bmp = feet below measuring point  
 LNAPL = light non-aqueous phase liquid  
 M:\TEM2\Field Forms\Well Sampling Field Data Sheet.DOC



TAT Environmental Management, Inc

### Groundwater Sampling Data Sheet



**Project Name:** GW Sampling - Boeing-Torrance  
**Project No.:** EM2303  
**Date:** 3/22/02  
**Prepared By:** NC/RK  
**Well Identification:** WCC-115  
**Pump Intake Depth (ft-bmp):**

**Measurement Point Description:** TOC - Blackmark

Depth to LNAPL (ft-bmp)	Depth to Static Water Level (ft-bmp)	Well Total Depth (ft-bmp)	Water Column Height (ft)	LNAPL Thickness (ft)	One (1) Casing Volume (gallons)	Three (3) Casing Volumes (gallons)
ND	63.83	91.01	27.18	NA	18	54

Well Diameter (in)	Gallons/Foot			Purge Method:
	0.75	4	6	
0.75	0.02	0.16	1.47	Well Condition: Good; water in well box

Time	Casing Volumes Purged	Volume Purged (gallons)	Flow Rate (gpm)	Water Level (ft-bmp)	Ph	Temperature (°C)	Turbidity (NTU)	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Observations
10:40	0.5	9	1.5	66.13	6.99	22.23	49.8	1.91	2.19	-11	clear
10:46	1	18	3.0	66.26	7.02	22.26	630.0	1.74	1.97	+22	"
10:52	1.5	27	1.5	66.31	7.04	22.29	471.0	1.60	2.05	+31	"
10:58	2	36	1.5	66.34	7.04	22.28	630	1.55	2.67	+47	"
11:04	2.5	45	1.5	65.84	7.05	22.42	7999	1.47	2.20	+39	"
11:08	3	54	1.5	65.54	7.05	22.48	7999	1.44	1.96	+37	"

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery Water Level Depth	Water Level at Sampling Time (ft-bmp)	Sample Collection Time	Sample Identification
10:34	11:08	1.5	54	3	69.27	65.54	11:10	WCC115-TAT032202-0001 WCC-115-032202-1114

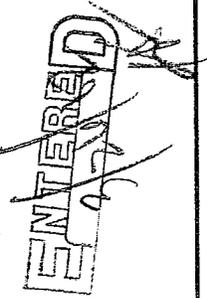
**Notes:** Solid well bottom  
 PID = 8.1 ppm  
 Duplicate: WCC115-TAT032202-0002

ft-bmp = feet below measuring point  
 LNAPL = light non-aqueous phase liquid  
 M:\TEM2\Feld Forms\Well Sampling Field Data Sheet.DOC



TAIT Environmental Management, Inc

Groundwater Sampling Data Sheet



**Project Name:** GW Sampling - Boeing - Torrance  
**Project No.:** EM2303  
**Well Identification:** XMW-19  
**Date:** 8/22/02  
**Prepared By:** NC/RK  
**Pump Intake Depth (ft-bmp):**

**Measurement Point Description:** TOC-Blackmark

Depth to LNAPL (ft-bmp)	Depth to Static Water Level (ft-bmp)	Well Total Depth (ft-bmp)	Water Column Height (ft)	LNAPL Thickness (ft)	One (1) Casing Volume (gallons)	Three (3) Casing Volumes (gallons)
ND	60.78	77.38	16.60	NA	10	30

**Well Diameter (in)**

Gallons/Foot	
0.75	2
4	4
6	6

**Field Equipment:** SEE DAILY LOG  
**Purge Method:**  
**Well Condition:** Good (stinger + air line attached to cap)

Time	Casing Volumes Purged	Volume Purged (gallons)	Flow Rate (gpm)	Water Level (ft-bmp)	Ph	Temperature (°C)	Turbidity (NTU)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Observations	Sample Identification		
												Purge Start Time	Purge End Time	Purge Time
12:01	0.5	5	1.67	61.16	7.05	23.34	>999	1.69	3.06	+37	brown/muddy			
12:04	1	10	1.67	61.15	7.07	23.39	>999	1.66	2.91	+64	muddy			
12:07	1.5	15	1.67	61.17	7.06	23.34	>999	1.62	3.45	+65	muddy			
12:10	2	20	1.67	61.18	7.01	23.48	>999	1.64	3.89	+28	mostly clear			
12:13	2.5	25	1.67	61.18	7.04	23.44	>999	1.55	4.18	+36	mostly clear			
12:17	3	30	1.25	61.19	7.04	23.47	>999	1.56	4.39	+24	slightly muddy			
			Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery Water Level Depth	Water Level at Sampling Time (ft-bmp)	Sample Collection Time						
			1.6	30	3	64.10	61.19	12:25						

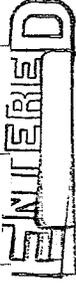
**Notes:** Solid well bottom Water was muddy, was not possible to collect clear sample  
 PID = 0.3 ppm

ft-bmp = feet below measuring point  
 LNAPL = light non-aqueous phase liquid  
 M:\TEM2\Field Forms\Well Sampling Field Data Sheet.DOC



TAIT Environmental Management, Inc

### Groundwater Sampling Data Sheet



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**Project Name:** GW Sampling - Boeing - Torrance  
**Project No.:** EM2303  
**Date:** 3/22/02  
**Prepared By:** NC/RK  
**Well Identification:** TMW-13  
**Pump Intake Depth (ft-bmp):**

**Measurement Point Description:** TOC - Blackmark

Depth to LNAPL (ft-bmp)	Depth to Static Water Level (ft-bmp)	Well Total Depth (ft-bmp)	Water Column Height (ft)	LNAPL Thickness (ft)	One (1) Casing Volume (gallons)	Three (3) Casing Volumes (gallons)
ND	65.45	78.48	13.03	NA	2	6

**Field Equipment:** SEE DAILY LOG

Well Diameter (in)	Gallons/Foot			Purge Method:
	0.75	2	4	
2	0.02	0.16	0.65	Well Condition: Good; dirt accumulated in well box.

Time	Casing Volumes Purged	Volume Purged (gallons)	Flow Rate (gpm)	Water Level (ft-bmp)	Ph	Temperature (°C)	Turbidity (NTU)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Observations
13:27	0.5	1	1	-	7.07	22.87	>999	1.19	9.86	+64	silty
13:29	1	2	0.5	65.74	6.91	23.01	604	1.25	6.47	+61	clear
13:30	1.5	3	1	65.76	6.85	23.14	620	1.33	5.52	+56	"
13:31	2	4	1	65.79	6.82	23.14	499	1.38	4.99	+61	"
13:32	2.5	5	1	65.80	6.82	23.17	329	1.41	4.80	+61	"
13:33	3	6	1	65.78	6.81	23.19	263	1.43	4.74	+61	"

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery Water Level Depth	Water Level at Sampling Time (ft-bmp)	Sample Collection Time	Sample Identification
13:26	13:33	0.92	6	3	68.06	65.78	13:35	TMW-13-032202-1335

**Notes:** soft well bottom  
 PID = 0.4 ppm

ft-bmp = feet below measuring point  
 LNAPL = light non-aqueous phase liquid  
 M:\ITEM2\Field Forms\Well Sampling Field Data Sheet.DOC



TAIT Environmental Management, Inc.

### Groundwater Sampling Data Sheet

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**Project Name:** GW Sampling - Boeing - Torrance  
**Project No.:** EM2303  
**Well Identification:** WCC-95  
**Measurement Point Description:** TOC - Redmark  
**Date:** 3/22/02  
**Prepared By:** NC/RK  
**Pump Intake Depth (ft-bmp):** ~86 ft

Depth to LNAPL (ft-bmp)	Depth to Static Water Level (ft-bmp)	Well Total Depth (ft-bmp)	Water Column Height (ft)	LNAPL Thickness (ft)	One (1) Casing Volume (gallons)	Three (3) Casing Volumes (gallons)
ND	60.35	81.68	27.33	NA	18	54

**Well Diameter (in)**

Gallons/Foot	
0.75	2
4	4
6	6

**Field Equipment:** SEE DAILY LOG  
**Purge Method:**  
**Well Condition:** Good

Time	Casing Volumes Purged	Volume Purged (gallons)	Flow Rate (gpm)	Water Level (ft-bmp)	Ph	Temperature (°C)	Turbidity (NTU)	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Observations
14:14	0.5	9	1	61.11	6.96	23.31	366	1.68	4.75	+40	clear
14:19	1	18	1	61.16	6.96	23.28	301	1.72	3.61	+44	clear
14:24	1.5	27	1	61.16	6.98	23.27	187	1.70	3.84	+47	clear
14:29	2	36	1	61.20	7.00	23.24	136	1.54	3.22	+50	clear
14:34	2.5	45	1	61.17	7.02	23.24	113	1.44	3.13	+52	clear
14:39	3	54	1	61.21	7.04	23.25	178	1.34	3.09	+55	clear

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery Water Level Depth	Water Level at Sampling Time (ft-bmp)	Sample Collection Time	Sample Identification
14:09	14:39	1.0	54	3	65.82	61.21	14:40	WCC-95-032202-1440

**Notes:** soft well bottom  
 P/D = 1.3 ppm

ft-bmp = feet below measuring point  
 LNAPL = light non-aqueous phase liquid  
 M:\ITEM2\Field Forms\Well Sampling Field Data Sheet.DOC



TAIT Environmental Management, Inc

### Groundwater Sampling Data Sheet

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3/21/02

Page 1 of 1

**Project Name:** GW Sampling - Boeing-Torrance  
**Project No.:** EM2303  
**Well Identification:** XMW-09  
**Measurement Point Description:** TOC - Benchmark

**Date:** 3/21/02  
**Prepared By:** NC, RK  
**Pump Intake Depth (ft-bmp):** ~ 78.5

Depth to LNAPL (ft-bmp)	Depth to Static Water Level (ft-bmp)	Well Total Depth (ft-bmp)	Water Column Height (ft)	LNAPL Thickness (ft)	One (1) Casing Volume (gallons)	Three (3) Casing Volumes (gallons)
ND	68.30	79.22	10.92	NA	7	21

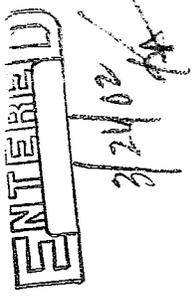
Well Diameter (in)	Gallons/Foot			Purge Method:
	0.75	2	4	
0.75	0.02	0.16	0.65	SEE DAILY LOG

Time	Casing Volumes Purged	Volume Purged (gallons)	Flow Rate (gpm)	Water Level (ft-bmp)	Ph	Temperature (°C)	Turbidity (NTU)	Conductivity (ms/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Observations
9:19	0.5	3.5	0.58	69.18	6.55	23.55	308	1.81	0.29	+55	mostly clear
9:23	1	7	0.88	69.31	6.57	23.62	204	1.81	0.33	+51	mostly clear
9:28	1.5	10.5	0.7	69.34	6.58	23.55	112	1.81	0.30	+44	mostly clear
9:32	2	14	0.88	69.35	6.59	23.54	91.6	1.81	0.31	+41	clear
9:36	2.5	17.5	0.88	69.37	6.60	23.56	84.6	1.81	0.29	+36	clear
9:40	3	21	0.88	69.33	6.60	23.53	81.3	1.81	0.25	+36	clear

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery Water Level Depth	Water Level at Sampling Time (ft-bmp)	Sample Collection Time	Sample Identification
9:13	9:40	0.8	21	3	70.48	69.33	09:45	XMW-09-032102-0945

**Notes:** Soft well bottom.  
 PID = 0.6 ppm

ft-bmp = feet below measuring point  
 LNAPL = light non-aqueous phase liquid  
 MATTEM2/Field Forms/Well Sampling Field Data Sheet.DOC



Groundwater Sampling Data Sheet



TAI Environmental Management, Inc

**Project Name:** GW Sampling - Boeing - Torrance  
**Project No.:** EM2303  
**Well Identification:** WCC-55  
**Measurement Point Description:** TOC - Blackmark  
**Date:** 3/21/02  
**Prepared By:** NC, RK  
**Pump Intake Depth (ft-bmp):**

Depth to LNAPL (ft-bmp)	Depth to Static Water Level (ft-bmp)	Well Total Depth (ft-bmp)	Water Column Height (ft)	LNAPL Thickness (ft)	One (1) Casing Volume (gallons)	Three (3) Casing Volumes (gallons)
ND	61.93	89.91	27.98	NA	18	54

**Well Diameter (in)**  
 Gallons/Foot: 2, 4, 6  
 Field Equipment: SEE DAILY LOG  
 Purge Method:

Time	Casing Volumes Purged	Volume Purged (gallons)	Flow Rate (gpm)	Water Level (ft-bmp)	Ph	Temperature (°C)	Turbidity (NTU)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Observations
10:28	0.5	9	1.5	62.40	6.98	23.28	10.9	1.37	5.69	+50	Clear
10:32	1	18	2.25	62.45	6.98	23.24	0.7	1.40	5.10	+46	Clear
10:37	1.5	27	1.8	62.45	6.98	23.22	14.3	1.41	5.03	+46	Clear
10:42	2	36	1.8	62.45	6.98	23.17	0.7	1.39	4.96	+56	Clear
10:46	2.5	45	2.25	62.46	6.98	23.18	10.0	1.38	4.89	+58	Clear
10:50	3	54	2.25	62.47	6.98	23.19	10.0	1.37	4.83	+61	Clear

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery Water Level Depth	Water Level at Sampling Time (ft-bmp)	Sample Collection Time	Sample Identification
10:22	10:50	1.98	54	3	67.53	62.47	10:55	WCC-55-032102-1055

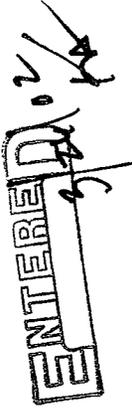
**Notes:** Soft well bottom  
 PID = 11.6 ppm

ft-bmp = feet below measuring point  
 LNAPL = light non-aqueous phase liquid  
 M:\TEM2\Field Forms\Well Sampling Field Data Sheet.DOC



TMT Environmental Management, Inc

### Groundwater Sampling Data Sheet



**Project Name:** Boeing - Torrance GW Sampling  
**Date:** 8/21/02  
**Project No.:** EM2363  
**Prepared By:** NC/RK  
**Well Identification:** TMW-16  
**Pump Intake Depth (ft-bmp):**

**Measurement Point Description:** TOC - Blackmark

Depth to LNAPL (ft-bmp)	Depth to Static Water Level (ft-bmp)	Well Total Depth (ft-bmp)	Water Column Height (ft)	LNAPL Thickness (ft)	One (1) Casing Volume (gallons)	Three (3) Casing Volumes (gallons)
ND	68.06	81.18	13.12	NA	2	6

**Well Diameter (in)**

Gallons/Foot	
0.75	2
4	6
0.02	0.16

**Field Equipment:** SEE DAILY LOG  
**Purge Method:**

**Well Condition:** GOOD (TOC above ground surface)

Time	Casing Volumes Purged	Volume Purged (gallons)	Flow Rate (gpm)	Water Level (ft-bmp)	Ph	Temperature (°C)	Turbidity (NTU)	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Observations
11:39	0.5	1	0.5	NM	7.25	23.48	>999	1.91	8.99	+58	mostly clear
11:50	1.5	3	NM	77.72	7.28	24.26	>999	2.03	8.45	+60	silty
11:52	2	4	0.5	78.12	7.25	24.92	>999	2.01	7.89	+79	silty
11:54	2.5	5	0.5	78.82	7.26	23.79	>999	2.01	8.27	+89	mostly clear
11:56	3	6	0.5	78.93	7.25	23.75	>999	2.05	8.18	+89	" "

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery Water Level Depth	Water Level at Sampling Time (ft-bmp)	Sample Collection Time	Sample Identification
11:37	11:56	0.5	6	3	70.68	70.68	12:05	TMW-16-032102-1205

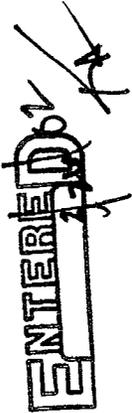
**Notes:** Semi-soft well bottom Pump stopped ~ 11:42.  
 RID = 0.5

ft-bmp = feet below measuring point  
 LNAPL = light non-aqueous phase liquid  
 M:\ITEM2\Field Forms\Well Sampling Field Data Sheet.DOC



TAIT Environmental Management, Inc

# Groundwater Sampling Data Sheet



**Project Name:** GW Sampling - Boeing - Torrance  
**Project No.:** EM2303  
**Date:** 3/21/02  
**Prepared By:** NC/RK  
**Well Identification:** TMW-10  
**Pump Intake Depth (ft-bmp):**  
**Measurement Point Description:** TOC - Redmark

Depth to LNAPL (ft-bmp)	Depth to Static Water Level (ft-bmp)	Well Total Depth (ft-bmp)	Water Column Height (ft)	LNAPL Thickness (ft)	One (1) Casing Volume (gallons)	Three (3) Casing Volumes (gallons)
ND	61.32	78.00	16.68	NA	3	9

**Well Diameter (in)**

Gallons/Foot		
0.75	2	4
0.75	0.16	6
0.75	0.02	1.47

**Field Equipment:** SEE DAILY LOG  
**Purge Method:**  
**Well Condition:** GOOD

Time	Casing Volumes Purged	Volume Purged (gallons)	Flow Rate (gpm)	Water Level (ft-bmp)	Ph	Temperature (°C)	Turbidity (NTU)	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Observations
12:57	0.5	1.5	0.38	61.58	7.19	24.54	555	1.61	4.85	+20	Silty
13:02	1	3	0.3	61.59	7.19	24.51	343	1.56	4.68	+11	mostly clear
13:09	1.5	4.5	0.21	61.64	7.17	24.24	93.3	1.55	4.89	+13	clear
13:11	2	6	0.75	61.65	7.17	23.94	72.7	1.54	4.95	+19	clear
13:14	2.5	7.5	0.5	61.67	7.17	23.86	37.8	1.55	5.08	+23	clear
13:16	3	9	0.75	61.68	7.17	23.85	26.9	1.54	5.14	+26	clear

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery Water Level Depth	Water Level at Sampling Time (ft-bmp)	Sample Collection Time	Sample Identification
12:53	13:16	0.48	9	3	64.66	61.68	13:20	TMW-10-032102-1320

**Notes:** Soft well bottom pump stopped at 12:58 + at 13:03  
 PID = 0.3 ppm.

ft-bmp = feet below measuring point  
 LNAPL = light non-aqueous phase liquid  
 M:\TEM2\Field Forms\Well Sampling Field Data Sheet.DOC



TAIT Environmental Management, Inc

### Groundwater Sampling Data Sheet

**ENTERED** *mc/av/A*

**Project Name:** Boeing - Compton - GW Sampling  
**Project No.:** EM 2303  
**Well Identification:** WCC-3D  
**Date:** 3/21/02  
**Prepared By:** NC/RK  
**Pump Intake Depth (ft-bmp):**

**Measurement Point Description:**

Depth to LNAPL (ft-bmp)	Depth to Static Water Level (ft-bmp)	Well Total Depth (ft-bmp)	Water Column Height (ft)	LNAPL Thickness (ft)	One (1) Casing Volume (gallons)	Three (3) Casing Volumes (gallons)
ND	64.16	139.45	75.29	NA	49	147

**Field Equipment:** SEE DAILY LOG

Well Diameter (in)	Gallons/Foot			Purge Method:	Well Condition:
	0.75	2	4		
4	0.02	0.16	0.65		GOOD
6					

Time	Casing Volumes Purged	Volume Purged (gallons)	Flow Rate (gpm)	Water Level (ft-bmp)	Ph	Temperature (°C)	Turbidity (NTU)	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Observations
14:37	0.5	24.5	0.88	74.02	7.44	23.13	2.8	0.822	0.10	-82	clear
14:54	1	49	1.4	74.12	7.46	23.11	3.2	0.804	0.00	-90	clear
15:11	1.5	73.5	1.4	74.15	7.47	23.14	3.3	0.805	0.00	-91	clear
15:28	2	98	1.4	74.05	7.48	23.13	3.6	0.804	0.00	-90	clear
15:45	2.5	122.5	1.4	74.28	7.48	23.15	3.7	0.805	0.00	-89	clear
16:02	3	147	1.4	74.22	7.48	23.08	3.9	0.805	0.00	-88	clear

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery Water Level Depth	Water Level at Sampling Time (ft-bmp)	Sample Collection Time	Sample Identification
14:09	16:02	1.3	147	3	79.22	74.22	16:05	WCC-3D-032102-1605

**Notes:** Soft well bottom  
 PID = 0.2 ppm

ft-bmp = feet below measuring point  
 LNAPL = light non-aqueous phase liquid  
 M:\ITEM2\Field Forms\Well Sampling Field Data Sheet.DOC





TAIT Environmental Management, Inc

QA/QA Sample Identification Form

Project Name: <b>GW Sampling - Boeing - Torrance</b>		Project #: <b>EM2303</b>							
Date	Time	QA/QC Sample Type (Duplicate, Field Blank, Equipment Blank, Split)	Sample ID	Sample Location	Primary Sample Reference	Analytical Method(s)	Organic-Free Water Source and Reference	Name	Comments
3/21/02	8:45	Rinsate blank	EB-TAIT032102-0001	N/A		VOC(8260B)	Lab-DI	RK/NC	
3/24/02	-	Trip blank	TB-TAIT032402-0001	N/A		VOC(8260B)	Lab-DI		Prep. by STL.
3/22/02	7:20	Rinsate blank	EB-TAIT032202-0001	-		VOC(8260B)	Lab DI	RK/NC	
↓	11:20	Duplicate	INCO15-TAIT032202-0002	WCC-15		VOC(8260B)	<del>Lab DI</del>	RK/NC	
↓		Trip blank	TB-TAIT032202-0001	-		VOC(8260B)	Lab DI		Prep by STL
3/25/02	8:45	Rinsate blank	EB-TAIT032502-0001	-		VOC(8260B)	Lab DI	RK/NC	
↓		Trip blank	TB-TAIT032502-0001	-		VOC(8260B)	Lab DI		Prep by STL
3/26/02	7:30	Rinsate blank	EB-TAIT032602-0001	-		VOC(8260B)	Lab DI	RK/NC	
↓		Trip blank	TB-TAIT032602-0001	-		VOC(8260B)	Lab DI	<del>RK/NC</del>	Prep by STL
↓	14:00	Duplicate	TMW-TAIT032602-0002	TMW-4		VOC(8260B)		RK/NC	
3/27/02	6:30	Rinsate blank	EB-TAIT032702-0001			VOC(8260B)	Lab DI	RK/NC	
	-	Trip blank	TB-TAIT032702-0001			VOC(8260B)		RK	



**MONITOR WELLS  
FIELD SURVEY SUMMARY**

DATE: 3/19/02

CLIENT: Boeing Realty Corp. / Haley & Aldrich

REFERENCE NUMBER: Former C-6 Facility

LOCATION: SW Cor. Normandie & 190th

CITY/STATE: Los Angeles, CA

CLIENT JOB #: 27608 (H&A)

TAIT & ASSOC. JOB #: SP-3289M

**VERTICAL CONTROL:**

CORRECTION FACTOR: \_\_\_\_\_

**BENCHMARK DATA:**

AGENCY: L.A. Co.

B.M. DESIGNATION: #21-02290

ELEVATION: 47.25 M.S.L.

MONUMENT DESC.: U.S.C.&G.S. BRASS DISK

MONUMENT LOCATION: 2' W. OF CURB OF NORMANDY & 101' S. OF  
C/L PROD OF KNOX STREET



Michael Simon  
MICHAEL SIMON, P.L.S. 6034  
MY REGISTRATION EXP. 6/30/05

## MONITOR WELLS FIELD SURVEY SUMMARY

DATE: 19-Mar-02

TAIT JOB #: SP-3289-M

CLIENT: Boeing Realty

CLIENT JOB #: \_\_\_\_\_

PROJECT LOCATION / ADDRESS: SW Cor. Normandie & 190th

Los Angeles, CA

WELL I.D.	COMMENTS	TOP / CASING ELEVATION		GROUND/RIM ELEVATION	
WCC-95		46.85	M.S.L.	47.19	M.S.L.
WCC-75		50.20	M.S.L.	50.49	M.S.L.
WCC-55		48.79	M.S.L.	49.09	M.S.L.
WCC-45		49.62	M.S.L.	49.88	M.S.L.
WCC-113		51.34	M.S.L.	51.65	M.S.L.
WCC-3D		51.11	M.S.L.	51.34	M.S.L.
WCC-3S		51.12	M.S.L.	51.44	M.S.L.
TMW-2	NO RIM	56.42	M.S.L.	55.2	M.S.L.
WCC-65		51.30	M.S.L.	51.44	M.S.L.
TMW-8	NO RIM	51.06	M.S.L.	51.4	M.S.L.
TMW-7	NO RIM	52.52	M.S.L.	50.8	M.S.L.
TMW-9	NO RIM	52.75	M.S.L.	51.2	M.S.L.
TMW-1	NO RIM	56.51	M.S.L.	55.0	M.S.L.
DAC-P1		52.75	M.S.L.	53.63	M.S.L.
BL-3		56.48	M.S.L.	56.70	M.S.L.
TMW-14		58.16	M.S.L.	58.52	M.S.L.
TMW-15		55.23	M.S.L.	55.62	M.S.L.
TMW-3	NO RIM	51.36	M.S.L.	50.6	M.S.L.
TMW-5	NO RIM	53.40	M.S.L.	51.4	M.S.L.
TMW-6	NO RIM	56.35	M.S.L.	55.0	M.S.L.
TMW-4	NO RIM	52.27	M.S.L.	51.6	M.S.L.
TMW-16	NO RIM	55.73	M.S.L.	52.8	M.S.L.
WCC-125		46.92	M.S.L.	47.38	M.S.L.
TMW-10		47.48	M.S.L.	48.14	M.S.L.
XMW-19		46.53	M.S.L.	47.35	M.S.L.

